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(54) Title: NOVEL FLUORESCENT PROTEINS FROM AEQUOREA COERULSCENS AND METHODS FOR USING SAME

10 20 30 40 50 60
5' ATTCAAACACTGCAGATTTCGGATAGATTTCCTGCTACTTCACACGCATAAAGACA
70 80 90 100 110 120
ACAAAGATGAGTAAAGGAGCAGAACTTTCTGAGAGTTGTCCTCAATTCCTTATGATTA
M S K G A E L F T G V P I L I S L
130 140 150 160 170 180
AATGGTGTCTTAATGGGCACAAATTCCTGTCAGTGGAGCGGCAAGGTGATCGCACA
N G D V H G H K F S V S G E G E G D A T
190 200 210 220 230 240
TACGGAAGTTAACCTTAAATTTATTTGCACTACAGGAAAACCTACCTGTTCCATGGCCA
Y G K L T L K F I C T T G K L P V P W F
250 260 270 280 290 300
ACACTGTGCTACTTCTCTTATGGTGTCTCAATGCTTTCAAGATATCCAGATCATGT
T L V T T F S Y G V Q C F S R Y P D H M
310 320 330 340 350 360
AAACAGCATGACTTCTTCAAGAGTCCCATGCCCTGAAGGTTATATACAGGAAGAACTATA
K Q H D F F K S A M F E G Y I Q E R T I
370 380 390 400 410 420
TTTTCAAAAGATGACGGGAACACAACTCAAGTCCGCTGCTGAAGTCAAGTTCGAAGGTGATAC
F F K D D G H Y K S R A E V K F E G D T
430 440 450 460 470 480
CTGGTTAATAGAAATTGAGTTAAACAGGTACTGATTTTAAAGAAGATGCAAAACATCTCTGGA
L V H R I E L T G T D F K E D G H I L G
490 500 510 520 530 540
AATAAATGGAATCAACTATAACGCACATAATGTATACATCATGACAGACAAAGCAAAA
S X M E Y N Y H A H E V Y I M T D K A K
550 560 570 580 590 600
AATGCAATCAAGTTAACTTCAAAATTAAGACACAACATTGAAGATGGAAGCGTTCACTT
H G I K V N F K I R H N I E D G S V Q L
610 620 630 640 650 660
GCACACCATATCAACAAATACTTCAATTTGGCGATGGCCCTGCTCTTTTACCAGATAAC
A D H Y Q Q H T P I G D G P V L L P D N
670 680 690 700 710 720
CATTAACCTGTCACACAACTTACCTTTCCAAAGATCCCAACGAAAGAGAGATCATGT
H Y L S T Q S T L S K D P H E K R D H M
730 740 750 760 770 780
ATCTATTTGAGTTGTAAACAGCTGCTGCGATTACACATGCGATGGAATATATACAAA
I Y F E F V T A A A I T H G M D E L Y K
790 800 810 820 830 840
TAAATGTATAGACTTCAAGTTGACACTAACGTGTCCGAACAACTACTAAAATCTCAGGGT
850 860 870 880 890 900
TCCTGGTTAAATCAGGCTGACATATTATTTACATATTATAGATTATTAGAAATTTTA
910 920 930 940
AATACTTTATAGATGTATTGTATAGGGGTATTTCCTTATT 3'

(57) Abstract: The present invention provides nucleic
acid compositions encoding a novel colorless GFP-like
protein, acGFP, from Aequorea coerulscens and fluorescent
and non-fluorescent mutants and derivatives thereof, as
well as peptides and proteins encoded by these nucleic
acid compositions. The subject protein and nucleic acid
compositions of the present invention are colored and/or
fluorescent and/or can be photoactivated, and can be used in
a variety of different biological applications, particularly for
labeling. Finally, kits for use in such biological applications
are provided.

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